

In the Claims:

Please replace all prior versions, and listings, of claims in the application with the following list of claims.

1. (Currently amended) A method comprising:

immobilizing a chemical or biological species and an oligonucleotide identifier independently on a solid common surface, to participate in a chemical or biological interaction;

allowing the interaction to occur while the chemical or biological species and the oligonucleotide identifier are immobilized on the common surface; and

determining participation of the chemical or biological species in the chemical or biological interaction by identifying the oligonucleotide identifier immobilized on the surface, comprising separating the oligonucleotide identifier from the surface and then identifying the oligonucleotide identifier.

2-118. (Canceled)

119. (Previously presented) The method in claim 1, wherein the surface comprises gold.

120. (Previously presented) The method as in claim 119, wherein the surface is a surface of a gold colloid particle.

121. (Previously presented) The method as in claim 120, wherein the chemical or biological species is immobilized on the surface via a self-assembled monolayer.

122. (Previously presented) The method as in claim 1, wherein the chemical or biological species is immobilized on the surface via a metal binding tag – metal – chelate linkage.

123. (Canceled)

124. (Previously presented) The method as in claim 1, wherein the oligonucleotide identifier is immobilized on the surface via a self-assembled monolayer.

125. (Currently amended) The method as in claim 1, wherein the oligonucleotide identifier is identified via fluorescent sequencing signal.

126. (Canceled)

127. (Previously presented) The method as in claim 132, wherein each of the first and second surface is a colloid particle.

128. (Previously presented) The method as in claim 1, wherein the oligonucleotide identifier is identified by a complementary oligonucleotide having a first portion complementary to the oligonucleotide identifier and a second portion complementary to a second oligonucleotide identifier.

129. (Previously presented) The method as in claim 132, comprising further allowing a first chemical or biological species, immobilized on a first surface, to chemically or biologically interact with a second chemical or biological species, immobilized on a second surface; and determining the chemical or biological interaction by identifying an interaction hybridization identifier that is complementary to a combination of a first oligonucleotide identifier immobilized on the first surface and a second oligonucleotide identifier immobilized on the second surface.

130. (Canceled)

131. (Previously presented) The method as in claim 132 comprising, prior to the identifying step, separating any non-hybridized oligonucleotide.

132. (Previously presented) A method for determining interactions between chemical or biological species, comprising:

- providing a first chemical or biological species, immobilized on a first surface, and a first oligonucleotide identifier independently immobilized on the first surface;

- providing a second chemical or biological species, immobilized on a second surface;

allowing the first species bound to the first surface to participate in a chemical or biological interaction with the second species bound to the second surface;  
determining participation of the first and second species in the interaction; and  
determining the identity of the first oligonucleotide identifier, thereby identifying the first species, wherein the determining step comprises separating the oligonucleotide identifier from the surface and then identifying the oligonucleotide identifier;  
wherein the first surface is the surface of a nanoparticle.

133. (Previously presented) The method as in claim 1, wherein the oligonucleotide identifier is identified via PCR.

134. (Previously presented) The method as in claim 132, wherein the oligonucleotide identifier is identified via PCR.

135. (New) The method as in claim 1, wherein the surface is a surface of a colloid particle.

136. (New) The method as in claim 1, wherein the the oligonucleotide identifier is identified via polynucleotide hybridization.

137. (New) The method as in claim 1, wherein the the oligonucleotide identifier is identified via polynucleotide sequencing.

138. (New) The method as in claim 127, wherein the chemical or biological species is immobilized on the surface via a self-assembled monolayer.

139. (New) The method as in claim 127, wherein the surface comprises gold.

140. (New) The method as in claim 132, wherein the chemical or biological species is immobilized on the surface via a metal binding tag – metal – chelate linkage.

141. (New) The method as in claim 132, wherein the oligonucleotide identifier is identified via fluorescent signal.

142. (New) The method as in claim 132, wherein the the oligonucleotide identifier is identified via polynucleotide hybridization.

143. (New) The method as in claim 132, wherein the the oligonucleotide identifier is identified via polynucleotide sequencing.